

What is claimed is:

1. A compound which is crystalline carvedilol hydrobromide monohydrate.

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2. The compound according to claim 1 having an x-ray diffraction pattern as substantially shown in Figure 1.

10 3. The compound according to claim 2 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 6.5 ± 0.2 (2θ), 10.3 ± 0.2 (2θ), 15.7 ± 0.2 (2θ), 16.3 ± 0.2 (2θ), 19.8 ± 0.2 (2θ), 20.1 ± 0.2 (2θ), 21.9 ± 0.2 (2θ), 25.2 ± 0.2 (2θ), and 30.6 ± 0.2 (2θ).

15 4. The compound according to claim 1 having an infrared spectrum, which comprises characteristic absorption bands expressed in wave numbers as substantially shown in Figure 6.

20 5. The compound according to claim 1 having a Raman spectrum, which comprises characteristic peaks as shown in Figure 3.

6. A compound which is carvedilol hydrobromide dioxane solvate.

25 7. The compound according to claim 6 having an x-ray diffraction pattern as substantially shown in Figure 78.

30 8. The compound according to claim 7 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.7 ± 0.2 (2θ), 8.4 ± 0.2 (2θ), 15.6 ± 0.2 (2θ), 17.0 ± 0.2 (2θ), 18.7 ± 0.2 (2θ), 19.5 ± 0.2 (2θ), 21.4 ± 0.2 (2θ), 23.7 ± 0.2 (2θ), and 27.9 ± 0.2 (2θ).

9. A compound which is carvedilol hydrobromide 1-pentanol solvate.

10. The compound according to claim 9 having an x-ray diffraction pattern as substantially shown in Figure 79.

11. The compound according to claim 10 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.5 ± 0.2 (2θ), 7.8 ± 0.2 (2θ), 15.2 ± 0.2 (2θ), 18.9 ± 0.2 (2θ), 22.1 ± 0.2 (2θ), and 31.4 ± 0.2 (2θ).

12. A compound which is carvedilol hydrobromide 2-methyl-1-propanol solvate.

13. The compound according to claim 12 having an x-ray diffraction pattern as substantially shown in Figure 80.

14. The compound according to claim 13 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.8 ± 0.2 (2θ), 8.1 ± 0.2 (2θ), 16.3 ± 0.2 (2θ), 18.8 ± 0.2 (2θ), 21.8 ± 0.2 (2θ), and 28.5 ± 0.2 (2θ).

15. A compound which is carvedilol hydrobromide trifluoroethanol solvate.

16. The compound according to claim 15 having an x-ray diffraction pattern as substantially shown in Figure 81.

17. The compound according to claim 16 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about $7.7 \pm$

0.2 (2 θ), 8.4 \pm 0.2 (2 θ), 15.6 \pm 0.2 (2 θ), 16.9 \pm 0.2 (2 θ), 18.9 \pm 0.2 (2 θ), 21.8 \pm 0.2 (2 θ), 23.3 \pm 0.2 (2 θ), 23.8 \pm 0.2 (2 θ), and 32.7 \pm 0.2 (2 θ).

5 18. A compound which is carvedilol hydrobromide 2-propanol solvate.

 19. The compound according to claim 18 having an x-ray diffraction pattern as substantially shown in Figure 82.

10 20. The compound according to claim 19 having characteristic peaks from 0° degrees 2-theta (2 θ) to 35° degrees 2-theta (2 θ) at about 7.9 \pm 0.2 (2 θ), 8.3 \pm 0.2 (2 θ), 18.8 \pm 0.2 (2 θ), 21.7 \pm 0.2 (2 θ), 23.2 \pm 0.2 (2 θ), 23.6 \pm 0.2 (2 θ), and 32.1 \pm 0.2 (2 θ).

15 21. A compound which is carvedilol hydrobromide n-propanol solvate #1.

 22. The compound according to claim 21 having an x-ray diffraction pattern as substantially shown in Figure 46.

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 23. The compound according to claim 22 having characteristic peaks from 0° degrees 2-theta (2 θ) to 35° degrees 2-theta (2 θ) at about 7.9 \pm 0.2 (2 θ), 8.5 \pm 0.2 (2 θ), 17.0 \pm 0.2 (2 θ), 18.8 \pm 0.2 (2 θ), 21.6 \pm 0.2 (2 θ), 23.1 \pm 0.2 (2 θ), 23.6 \pm 0.2 (2 θ), and 21.2 \pm 0.2 (2 θ).

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 24. A compound which is carvedilol hydrobromide n-propanol solvate #2.

30 25. The compound according to claim 24 having an x-ray diffraction pattern as substantially shown in Figure 54.

26. The compound according to claim 25 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 8.0 ± 0.2 (2θ), 18.8 ± 0.2 (2θ), 21.6 ± 0.2 (2θ), 23.1 ± 0.2 (2θ), 25.9 ± 0.2 (2θ), 27.2 ± 0.2 (2θ), 30.6 ± 0.2 (2θ), and 32.2 ± 0.2 (2θ).

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27. A compound which is carvedilol hydrobromide ethanol solvate.

28. The compound according to claim 27 having an x-ray diffraction pattern as substantially shown in Figure 70.

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29. The compound according to claim 28 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 8.1 ± 0.2 (2θ), 8.6 ± 0.2 (2θ), 13.2 ± 0.2 (2θ), 17.4 ± 0.2 (2θ), 18.6 ± 0.2 (2θ), 21.8 ± 0.2 (2θ), 23.2 ± 0.2 (2θ), 23.7 ± 0.2 (2θ), and 27.4 ± 0.2 (2θ).

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30. A compound which is carvedilol hydrobromide anhydrous.

31. The compound according to claim 30 having an x-ray diffraction pattern as substantially shown in Figure 62.

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32. The compound according to claim 31 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 6.6 ± 0.2 (2θ), 16.1 ± 0.2 (2θ), 17.3 ± 0.2 (2θ), 21.2 ± 0.2 (2θ), 22.1 ± 0.2 (2θ), 24.1 ± 0.2 (2θ), and 27.9 ± 0.2 (2θ).

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33. The compound according to claim 30 having an infrared spectrum, which comprises characteristic absorption bands expressed in wave numbers as substantially shown in Figure 67.

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34. The compound according to claim 30 having a Raman spectrum, which comprises characteristic peaks as substantially shown in Figure 64.

5 35. A pharmaceutical composition, comprising the compound according to claim 1 and a pharmaceutically acceptable carrier.

36. A pharmaceutical composition, comprising the compound according to claim 30 and a pharmaceutically acceptable carrier.

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37. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a compound according to claim 1.

15 38. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a compound according to claim 30.

20 39. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 35.

25 40. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 36.